

# The cicada genus *Pomponia* Stål, 1866 (Hemiptera: Cicadidae) from China

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**Abstract:** *Pomponia orientalis* (Distant, 1912) is reported for the first time from China based on specimens collected from Yunnan Province. The morphological redescription and male genitalia of this species are provided. A key to the species of *Pomponia* from China is given. Geographical distribution of Chinese species of *Pomponia* is discussed.

**Key words:** Cicadomorpha; Cicadoidea; redescription; taxonomy; geographical distribution; key

## 中国螂蝉属分类研究（半翅目：蝉科）

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**摘要:** 记述采自云南的螂蝉属 1 中国新纪录种: 东方螂蝉 *Pomponia orientalis* (Distant, 1912)。文中对东方螂蝉的外部形态和雄性外生殖器进行了描记, 提供了中国螂蝉属已知种的检索表, 并对螂蝉属的地理分布进行了讨论。

**关键词:** 蝉亚目; 蝉总科; 重新描记; 分类; 地理分布; 检索表

## Introduction

The genus *Pomponia* was erected by Stål in 1866, with *Cicada fusca* Olivier, 1790 as the type species. However, *Cicada fusca* Olivier is a junior primary homonym of *Cicada fusca* Müller, 1776, and the name *C. fusca* was replaced by *Pomponia picta* (Walker, 1868) (Duffels & Hayashi 2006). The genus *Pomponia* was listed by Metcalf (1963) as comprising about forty species with a number of subspecies and varieties. Later, several species were established, and the status of a number of species was changed (Duffels & van der Laan 1985). Beuk (2002) stated that *Pomponia imperatoria* (Westwood, 1842) and some other allied species are more similar to the *Platylomia radha* species group than to other species of *Pomponia*. Boulard (2005) erected the genus *Megapomponia* for the large *Pomponia* species, with *P. imperatoria* as the type species. Duffels & Hayashi (2006) proposed the *Pomponia linearis* species group to accommodate eight species, and mentioned that several species previously placed in *Pomponia* should probably be transferred to other genera. Lee (2009) erected three new species and attributed them to *Pomponia linearis* species group. Sanborn (2013) listed 43 species of *Pomponia* worldwide with five species recorded from China. Regarding the status

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of *Pomponia*, Kato (1932) put it in the subtribe Pomponiaria of the tribe Dundubiini; Metcalf (1963) listed it as the only genus in the subtribe Pomponiaria of the tribe Psithyristriini; Lee (2008) transferred it to the subtribe Cicadina of the tribe Cicadini, and Lee & Hill (2010) transferred it to the subtribe Psithyristriina within Cicadini.

Distant (1912) named the species *Tettigia orientalis*. Metcalf (1963) transferred this species to the genus *Cicada* Linnaeus. Lee (2008) transferred it to the genus *Pomponia*, and stated this species is allied to *P. picta* and *P. linearis*. Boulard (2013) synonymized *Pomponia noualhieri* Boulard, 2005 with *Pomponia orientalis* (Distant, 1912). However, the description of this species is far from significant at present.

In a recent study of Chinese cicadas, we found *Pomponia orientalis* (Distant, 1912) from Yunnan, southern China. Herein, we redescribe this species and present a key to the Chinese species of *Pomponia*. In addition, the geographical distribution of Chinese species of *Pomponia* is discussed.

## Material and methods

The specimens for this study are deposited in the Entomological Museum, Northwest A&F University, Yangling, Shaanxi, China (NWAFU). External morphology was observed using the Olympus SZX10 stereomicroscope (Olympus Corporation, Tokyo, Japan), and photographed with a Nikon Coolpix P100 digital camera (Nikon Corporation, Indonesia). The male genitalia was observed and photographed using a Scientific Digital micrography system equipped with an Auto-montage imaging system and a high sensitive QIMAGING Retiga 4000R digital camera (CCD). Terminology for morphological features follows that of Moulds (2005, 2012). All measurements are in millimeters.

## Taxonomy

### Key to Chinese species of *Pomponia* Stål, 1866 (males)

1. Fore wing apical cell with longitudinal brown markings ..... *P. orientalis*
- Fore wing apical cell without marking ..... 2
2. Basal lobe of pygofer large, paramedian ..... 3
- Basal lobe of pygofer minute, laterally adjacent to pygofer ..... *P. subtilis*
3. Median spine of clasper distinctly longer than lateral spine ..... *P. linearis*
- Median spine of clasper about as long as or shorter than lateral spine ..... 4
4. Median spine of clasper shorter than lateral spine ..... *P. piceata*
- Median spine of clasper about as long as lateral spine ..... 5
5. Abdominal terga brown to ochraceous; fore wing CuA<sub>2</sub> and nodal line intersections on M<sub>1+2</sub> and M<sub>3+4</sub> not or very faintly infuscated ..... *P. yayeyamana*
- Abdominal terga dark reddish or dark brown; fore wing CuA<sub>2</sub> and nodal line intersections on M<sub>1+2</sub> and M<sub>3+4</sub> distinctly infuscated ..... *P. ponderosa*

### *Pomponia orientalis* (Distant, 1912), new record to China (Fig. 1)

*Tettigia orientalis* Distant, 1912: 460.

*Cicada orientalis* (Distant): Metcalf, 1963: 786.

*Pomponia noualhieri* Boulard, 2005: 10.

*Pomponia orientalis* (Distant): Lee, 2008: 10.

Redescription of male. Head (Figs. 1A, B). Green, with thick yellow hairs, slightly wider than mesonotum. Eyes fuscous and ocelli green. A blackish median spot enclosing ocelli forming an upside down triangle. Postclypeus moderately swollen, yellowish green, with two symmetrical series of thin, transverse fuscous lines on underside. Rostrum yellowish green with apical part blackish, extending to posterior trochanters.

Thorax (Figs. 1A, B). Pronotum longer than head. Inner area of pronotum yellowish green, with a black transverse marking near anterior margin. Pronotal collar yellowish green, with irregular black marking along inner margin of anterior area of pronotal collar; lateral margins of pronotal collar curved and ampliate. Mesonotum green, with following black markings: a medial longitudinal arrow-shaped fascia reaching anterior margin of cruciform elevation; an inwardly curved fascia along each parapsidal suture; a broad, interrupted fascia along each parapsidal suture; a pair of small triangular fasciae at anterior margin of mesonotum between the above mentioned fasciae; a pair of small spots on scutal depressions. Cruciform elevation yellowish green, densely covered with yellow hairs, pair of black markings on anterior angles.

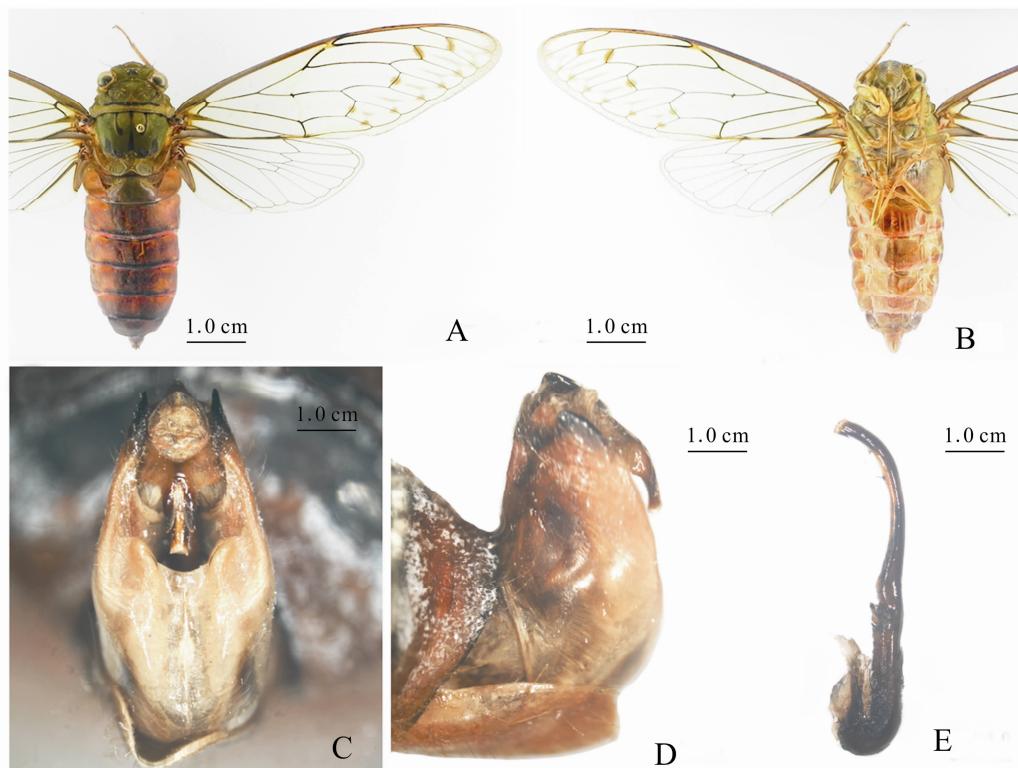


Figure 1. *Pomponia orientalis* (Distant, 1912). A. Habitus, dorsal view; B. Habitus, ventral view; C. Male pygofer, ventral view; D. Male pygofer, lateral view; E. Aedeagus, lateral view.

Legs (Fig. 1B). Yellow to green. Fore femur swollen, equipped with three spines beneath: primary spine longest, pointed and oblique to femur; secondary spine of intermediate size and subapical spine shortest, both angled slightly.

Wings (Figs. 1A, B). Hyaline. Fore wing fairly slender, with a distinct infuscation at bases of apical cells 2, 3, 5 and 7; a marginal series of minute pale fuscous spots near apices of longitudinal veins to apical cells; vein  $r_m$  very oblique; apical cell with longitudinal brown markings. Costal vein green.

Abdomen (Figs. 1A, B). Cylindrical, much longer than distance from head to cruciform elevation. Tergites red brown with irregular dark brown markings; abdominal sternites translucent and mostly pale brown, but sternite VII black. Timbal cover semicircular, red brown; timbal concealed with timbal cover in dorsal view. Operculum short, convex, upside-down triangular, separated far from the other one, with posterior angle semicircular and not passing posterior margin of sternite II.

Male genitalia (Figs. 1C–E). Pygofer pale brown. Upper lobe of pygofer acute; basal lobe of pygofer paramedian, large, obliquely protruding posterocentrally. Uncus small, not uplifted; uncal lobes thin and short, separated from each other basally. Aedeagus cylindrical, long and thick, not concealed under uncal lobes.

Measurements of materials (in mm; 5♂). Body length: 46.8–49.0; fore wing length: 49.8–51.0; fore wing width: 17.0–18.0; width of head including eyes: 12.0–12.8; pronotum width (including pronotal collar): 15.2–16.2; mesonotum width: 13.0–13.8.

**Specimens examined.** 5♂, China, Yunnan, Hekou County, 26-IV-2013, coll. Mingsheng YANG.

Distribution. China (Yunnan); Thailand; Vietnam.

Remarks. The type locality of this species is “Cochin China”, which is equivalent to the present southern Vietnam rather than China. In this study, the species *Pomponia orientalis* (Distant, 1912) is reported in China for the first time. Most species of *Pomponia* in China belong to the *Pomponia linearis* species group, but *P. orientalis* does not belong to this species group due to the following characteristic: postclypeus with two symmetrical series of thin, transverse fuscous lines on underside instead of a broad transverse band across postclypeus (Lee 2008).

## Discussion

At present, six species of *Pomponia* are known in China. All of them are distributed in the Oriental Region (Table 1). *P. piceata* Distant, 1905, *P. yayeyamana* Kato, 1933 and *P. ponderosa* Lee, 2009 are endemic to China. *P. linearis* has the widest range of distribution, i.e., from Japan, China, Philippines, Malaysia, and Burma to India. According to the distribution of related species, we infer that the genus *Pomponia* likely originated on the Indo-China Peninsula and spread to the Malay Peninsula southward and into southern China northward. The phylogenetic relationships within *Pomponia* and to other related genera are still unclear and need to be further researched.

**Table 1. Chinese species of *Pomponia* and their distributions**

Species	Distribution
<i>P. orientalis</i> (Distant, 1912)	China (Yunnan); Vietnam; Thailand
<i>P. subtila</i> Lee, 2009	China (Fujian, Yunnan, Hainan); Cambodia; Thailand
<i>P. piceata</i> Distant, 1905	China (Guangxi)
<i>P. yayeyamana</i> Kato, 1933	China (Taiwan)
<i>P. ponderosa</i> Lee, 2009	China (Guangdong)
<i>P. linearis</i> (Walker, 1850)	China (Anhui, Zhejiang, Jiangxi, Fujian, Hunan, Guangdong, Guangxi, Taiwan, Sichuan, Tibet); Japan; India; Burma; Philippines; Malaysia

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